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09/700,646	11/15/2000	Lars Andersson	9435-021	7654

7590

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EXAMINER

YANG, CLARA I

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/700,646

Applicant(s)

ANDERSSON, LARS

Examiner

Clara Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12, 14 and 16 is/are rejected.
- 7) ☒ Claim(s) 13, 15 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. The reply filed on 9 February 2004 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s):

- ◆ The boxes in Figs. 1 - 4 remain unlabeled. Per 37 CFR 1.83(a), conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a *labeled* representation (e.g., a labeled rectangular box). For example, the box indicated by reference character 15 in Fig. 1 should be labeled "IR Receiver" or "IR RX".
- ◆ In the prior Office Action (paper no. 04), guidelines illustrating the preferred layout for the specification of a utility application were provided and are suggested for the applicant's use.

### *Response to Arguments*

2. Applicant's arguments filed on 9 February 2004 have been fully considered but they are not persuasive.

On page 6, the applicant argues that Everett fails to teach (1) a charge pump means for producing a current at a voltage that is greater than a voltage of the power supply and (2) the step of supplying power to a transmitter capacitor from the charge pump after a signal has been received by the label's receiver. Everett's portable tag 14 or label is passive and its energy receive coil 34 must receive a signal from reading device 12 in order for voltage doubler 42 or charge pump to supply power to storage capacitor 44. In other words, energy receive coil 34 functions as tag 14's power supply. After tag 14's reception circuit 36 begins receiving reading device 12's signal, voltage doubler 42 boosts the voltage of energy receive coil 34 and supplies storage capacitor 44 with power. (See Everett, Col. 3, lines 13 - 19 and Col. 4, lines 35 - 39).

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Hence, Everett does teach a charge pump that produces a voltage that is greater than that a power supply means and begins supplying power after a signal for tag 14 has been received.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ahlm's electric label contains capacitor battery C that supplies a light emitting diode (LED) or transmitter means with power at a voltage greater than that of the power supply means (see Ahlm, Col. 6, lines 51 - 55 and 65 - 67). Ahlm, however, lacks a charge pump means that supplies capacitor battery C with power at a voltage greater than that of the power supply means. On the other hand, Everett teaches using a voltage doubler 42 or charge pump means for producing a supply voltage to a transmitter capacitor 44, wherein the voltage doubler 42's voltage is greater than that provided by energy receive coil 34, which functions as a power supply means. Everett also discloses that the communications range between reading device 14 and tag 12 is increased without increasing transmit power of the reading device by using a voltage doubler at tag 12 and by limiting the tag transmission duty factor (see Col. 1, lines 34 - 36 and Col. 6, lines 28 - 41). Consequently, one of ordinary skill in the art would recognize that by adding a charge pump means between the power supply and transmitter capacitor C of Ahlm's label as taught by Everett would decrease the label's power consumption of the solar cell while powering the transmitter in a highly efficient manner.

*Allowable Subject Matter*

3. Claims 13, 15, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 - 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,729,695 (Ahlm et al.) in view of U.S. Patent No. 5,491,468 (Everett et al.).

Referring to Claims 7 - 12, 14, and 16 Ahlm teaches an electronic label comprising: (a) a solar cell or power supply means (see Col. 3, lines 11 and 47 - 49); (b) receiver means (see Col. 2, lines 34 - 39); (c) an infrared (IR) light emitting diode (LED) (see Fig. 6 and Col. 6, line 50); (d) a transistor T or switching means for the LED (see Fig. 6); (e) capacitor battery C or transmitter capacitor that provides considerably greater power than normally provided by the solar cell (see Col. 6, lines 51 - 55 and 65 - 57); and (f) logical control circuitry for connecting and disconnecting diode D from capacitor battery C via transistor T (see Col. 5, lines 59 - 65 and Col. 6, lines 50 - 53). Ahlm's electronic label only transmits an acknowledgement when a received signal contains an identification (ID) code or address that corresponds to the one in the electronic label's memory (see Col. 5, lines 55 - 65). Because Ahlm also imparts that the electronic label's logical circuit will be set to a third mode or repeater mode when the received

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ID code or address is incorrect (see Col. 6, lines 1 - 1 - 18), it is understood that each electronic label's logical circuit is able to determine when transmission is likely to be required. Ahlm's electronic label, however, lacks a charge pump means that is connected to the capacitor battery C for supplying power to capacitor battery C.

In an analogous art, Everett teaches a passive tag 14, as shown in Fig. 1, comprising: (a) reading device 12 and coil 34 for supplying power to tag 14 (see Col. 1, lines 64 - 67; Col. 2, lines 1 - 3; and Col. 4, lines 21 - 24); (b) receiving circuit 36 or receiver means; (c) application specific integrated circuit (ASIC) 38 having a transmit drive or transmitter (see Col. 3, lines 17 - 19); (d) switching means 50; (e) voltage doubler 42 and energy storage capacitor 44 or charge pump means for producing a current at a voltage which is greater than the voltage provided by coil 34 (see Col. 4, lines 35 - 36); and (f) power up circuit 48 or control means for selectively connecting voltage doubler 42 and energy storage capacitor 44 to ASIC 38 (see Col. 4, lines 41 - 45). Everett's tag only transmits a reply when it is within reading device 12's communication range and receives sufficient energy from reading device 12 (see Col. 1, lines 64 - 67 and Col. 2, lines 1 - 9). When coil 34 receives energy generated by reading device 12, voltage doubler 42 increases the voltage from coil 34, which is then stored by capacitor 44 (see Col. 4, lines 35 - 39). Power up circuit 48 then detects the voltage in capacitor 44, connects capacitor 44 to ASIC 38 by closing switch 50 when the detected voltage exceeds 5 volts, and disconnects capacitor 44 when capacitor 44 drops to approximately 3 volts, thereby ensuring that circuits 38 remain powered until tag 14 has completed its transmission of the coded information (see Col. 4, lines 39 - 48). Here it is understood that the discharge time of capacitor 44 is a predetermined time period (see Col. 5, lines 30 - 50).

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic label of Ahlm as taught by Everett because connecting a charge pump to the transmitter capacitor and switching means only when transmission is likely, thereby ensuring that the transmitter is properly activated, and maintaining the connection only during data transmission decrease power consumption of the solar cell while powering the LED in a highly efficient manner.

*Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (703) 305-4086. The examiner can normally be reached on 8:30 AM - 7:00 PM, Monday - Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (703) 305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CY  
7 April 2004



BRIAN ZIMMERMAN  
PRIMARY EXAMINER